

MANUAL PRODUCT I.D.

**{ADVANCE \D 2.0}ORGANIZATIONAL
RESTRUCTURING AND RATIONALIZATION OF A
RAYON OR DISTRICT HEALTH DELIVERY
SYSTEM:
HOW TO CLOSE HOSPITAL BEDS
WHILE IMPROVING ACCESS TO CARE**

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UKRAINE PRODUCT 1.D

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IMPROVING ACCESS TO CARE**

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ORGANIZATIONAL RESTRUCTURING AND RATIONALIZATION OF RAYON-LEVEL HEALTH SYSTEMS

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I. INTRODUCTION AND OBJECTIVES

This booklet is a “How-To” Manual on the topic of ***“Organizational Restructuring and Rationalization of a Rayon or District Health Delivery System: How to Close Hospital Beds While Improving Access to Care.”*** The material for this publication has been developed and implemented primarily in Ukraine, but has also been utilized in other CIS countries by the *ZdravReform* Program. The booklet is meant to be a working document for Ministry of Health personnel and others concerned with health care reform. The specific objectives of the manual are as follows:

- **To provide a self-study “how-to” manual for policymakers and health managers who would like to learn “how to implement” facility-level and system-level reforms or initiatives;**
- **To present an in-depth understanding of the principles and concepts of health system restructuring and rationalization for senior-level managers who must continue to strive to improve quality while also reducing costs at the same time;**
- **To share with colleagues the experiences of a number of health managers in Ukraine and other CIS countries on the potential and the constraints to health system restructuring and rationalization at the rayon and district levels;**
- **To provide a realistic guide to developing improvements in health care for the people of Ukraine while conserving scarce resources in a time of major economic change.**

This manual is not meant to be the final word on the subject of rationalization and restructuring of health systems in Ukraine, but instead is meant to be a beginning effort at understanding the principles, concepts, methods, constraints, and possibilities which exist for realistic health reform. The manual is meant to be used as a guideline for future development, and all health managers will want to modify some of the recommendations to meet their own specific needs and special situations.

This manual shares the experiences of health managers in Ukraine and other CIS countries, and outlines their successes with regard to developing and implementing health system restructuring and rationalization. It is hoped that this manual will prove helpful to health managers at all levels as they continue to move forward with health reform initiatives in Ukraine.

We have provided helpful guidance and advice in a series of small boxes which are included throughout the text to assist the reader with practical information on each section and each step of the “how to” process.
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II. BACKGROUND: HEALTH CARE SYSTEMS DEVELOPMENT

The health care system in Ukraine is undergoing a major transition from the former Soviet model based on centralized planning and a rigid command and control structure, to a more decentralized model at the oblast and rayon levels with more local autonomy. Some oblasts are experimenting with capitation budget funding systems combined with more autonomy in decision making, which will allow local managers more discretion in the allocation and utilization of funds. While most of these experiments are still in the developmental stages, it is forecasted that these initiatives will result in major changes in the management and operation of the health delivery system. Some of the forecasted changes follow:

- **improved primary care for the population**
- **reduced referrals to specialists and subspecialists,**
- **reduced hospital admissions and ancillary service volumes,**
- **reduced hospital lengths of stay,**
- **improved satisfaction with health care services, and**
- **improved cost effectiveness of the total health system.**

These changes will eventually have a dramatic effect on every segment of the medical care system. At the same time, due to the serious economic changes presently occurring in Ukraine, the total health care system is being reduced in size and is experiencing shortages of equipment, medical instruments, drugs, laboratory reagents, radiology film, and as a result reduced levels of quality and efficiency, a reduction in the number of hospital/polyclinic visits and occupied hospital beds.

While all of these changes may appear to be, in many ways, dramatic, and in some ways catastrophic, this is really a *time of opportunity* for the leaders and institutions responsible for the health of the people of Ukraine. The opportunity exists to *improve the quality of the health care system and to reduce its overall operating costs* through a rigorous process of restructuring and rationalization. Operating a health system that is “fully funded” requires one set of attitudes and behavior with regard to costs, quality, and access. Operating a health system that is 15-30 percent funded from previous levels requires a very different set of attitudes and behavior. The leadership must begin to think more creatively, must know their costs for various services, and must begin to look more closely at costs and quality of various facilities, services and programs. The major objective of this manual is to provide information to the health care managers of some techniques and methods used by others in Ukraine and to share lessons learned from their experiences.

<p>Beginning on the next page is a background list of the existing relevant economic, organizational, and environmental issues that are presently facing Ukraine and will impact upon any attempts to reorganize or restructure the health delivery system.</p>
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***A. CHARACTERISTICS OF A RECOVERING ECONOMY AND ITS EFFECT
ON THE NATIONAL HEALTH CARE DELIVERY SYSTEM***

1. Transition from a Central Command to a Decentralized Authority Form of Government which Exhibits the Following Economic Trends:

- Transfer of property and enterprises from the public to the private sector
- Declining tax revenues with increasing tax rates
- Increasing international trade deficit
- Increasing national debt
- Declining credit rating for international loans
- Declining currency value
- Increasing inflation and prices
- Relatively low productivity in the world labor market
- Increasing unemployment
- Outdated plants and infrastructure
- Declining per capita income
- Growing percentage of the population near or below the poverty level
- Increasing environmental pollution
- Increasing chemical dependency (including alcohol and tobacco)
- Increasing mortality and morbidity rates
- Declining natural population rate

2. The Effects of these Economic Trends on the Health Care Delivery System

- a. Increasing number of patients going to emergency centers and specialty hospitals in advanced stages of disease causing long waiting periods for treatment.
- b. District and rayon central hospitals being bypassed for city specialty hospitals.
- c. Occupancy rates declining in smaller and rural hospitals.
- d. Government budget allocations reduced to 18% of need, creating the following conditions:
 - Ambulance vehicles declining in number because of lack of funds for maintenance; calls to transport non-emergency patients to the hospital causing multiple-hour delays in transport and treatment of legitimate emergency patients.
 - Hospitals and polyclinics getting further behind in providing modern technology for diagnosis and treatment, which contributes to the decline of the health status.
 - Radical reduction of government budget financing causing patients to supply their own drugs, medical supplies, and linens when admitted to the hospital.
 - Decline in patients entering the health care system due to loss of jobs and/or sick leave benefits and the adherence to subsistence-level jobs that do not permit them the time to seek medical care except in extreme emergency situations.
 - Increase in the infection rates in hospitals due to a larger concentration of more critically ill patients and a lack of funds for aseptic reagents to combat the cross infection of micro-organisms.

- Increase in patient hospital stays due to long queues for diagnostic procedures performed on old equipment with frequent break downs.
- Increase in social/welfare patients inappropriately admitted to hospitals because they have no other domicile in which to live.
- Increase in informal cash payments to physicians for preferred patient care.
- Introduction of user fees to patients in hospitals and polyclinics to help fund urgently needed supplies and equipment not budgeted by the government.
- Initiation by the government of per-capita allocation of health budgets to reward facilities for efficient use of resources, and inter-facility payments to reward facilities for offering quality low-cost services that attract patients to their facility.
- Self-paying patients become more selective in choosing doctors and facilities.
- Competition increases among facilities for public, inter-facility payment patients, and private, user fee-paying patients.
- Rationalizing of health care services and organizational restructuring become essential to provide efficient, quality/cost-effective services to retain current patient populations and attract new patients to remain an economically viable health provider in this recovery- and market-oriented economy.

To begin our discussion on rationalization and restructuring of the health delivery system, we begin with a conceptual framework which presents the various elements and steps within the overall health system . This discussion is presented in order to give the reader a thorough understanding of all of the elements in the process of restructuring and rationalization of the medical system at the rayon level.

B. HEALTH CARE SYSTEMS DESIGN CONCEPTS

Outlined below is a conceptual presentation of various levels and steps in the health and medical care system. This is presented to give the reader an understanding of the issues, types of facilities, levels of care and referral systems in order to understand the findings and recommendations which follow.

The Zhovkva rayon of the L'viv Oblast in Western Ukraine is used as an example to give the reader a perspective of the type of facilities involved.

1. Population and Levels of Care

Hospital services are only one part of the total health and medical care system. We might visualize the relationship of population to level of health/medical care as presented in Figure 1:

2. Definitions of Levels of Care

With regard to specific definitions of types of health and hospital care, we can define each level of care as follows.

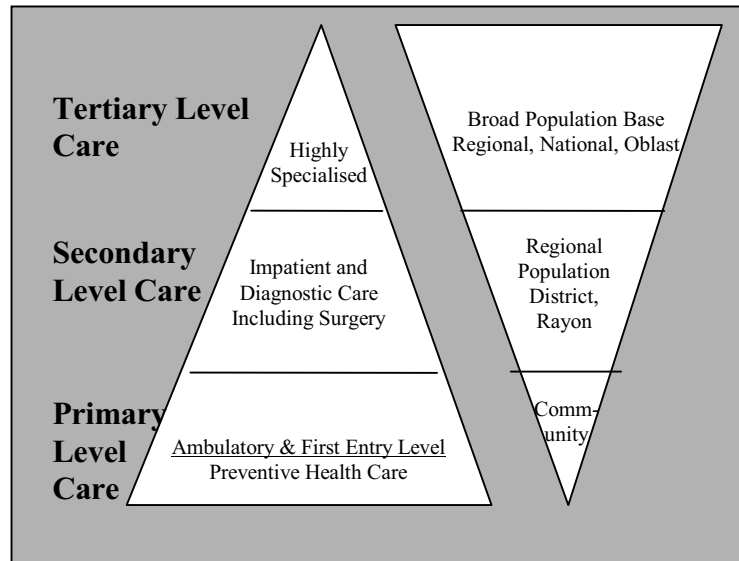


Figure 1

3. Primary Health Care (PHC)/Preventive Health Care

According to the 1978 Alma Ata Declaration, “PHC is essentially preventive care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. PHC forms an integral function and main focus of the overall social and economic development of the community. It is the first level of contact of individuals, the family and the community with the national health system, bringing health care as close as possible to where people live and work, and is primarily preventive in nature (public health, immunization, environmental).”

“PHC refers to the philosophy that preventive health care should be available, adequate, accessible, affordable, and acceptable. PHC as a service delivery policy permeates all strategies and thrusts of government health programs at the national, local and community

levels, so that people can be active and self-reliant participants in the struggle for better health.”

4. Primary Medical Care

Primary medical care is basic or general medical care first sought by the patient for treatment of the simpler and more common illnesses. The primary care provider usually assumes ongoing responsibility for health maintenance for the patient, refers the patient to secondary and often tertiary providers, and coordinates care for all of the patient’s health problems. Primary medical care is most frequently associated with family medicine or general practice given by solo physicians and physician group practices. (Examples of this type of care would be pediatrics, Ob/Gyn, internal medicine, family and community medicine).

Within the former Soviet health care system, the concepts of Primary Health Care (PHC) and Primary Medical Care are often taken as one single stage. However, in the normal international definitions, as utilized by the World Health Organization (WHO), these are two distinctly different concepts and should be separated and understood as two different elements of the total health system.

5. Secondary Medical Care

Secondary medical care consists of services provided by medical specialists, usually in a polyclinic or hospital setting, such as cardiologists or urologists, who generally do not have first contact with patients. Patients are usually referred by primary care providers but sometimes by themselves. Examples of this type of care are general surgery, ophthalmology, orthopedics, neurology, and cardiology.

6. Tertiary Medical Care

Tertiary medical care consists of services provided by highly specialized providers, such as neurosurgeons and oncologists, who frequently require sophisticated technological and support facilities, such as cardiac catheterization and high-energy radiation therapy. University teaching hospitals, specialty hospitals and medical centers, usually at the Oblast level or in Republican hospitals, are examples of tertiary care providers. Examples are oncology, OB-high risk, neonatology, cardio-thoracic surgery, plastic surgery, pediatric cardiology, and hemophilia.

The medical care systems triangle is presented as an ideal model. It is meant to portray that the majority of health care funding should be spent at the PHC and Primary Medical Care levels, as it is more cost effective in the long run, and the major focus should be health prevention not disease cure. Now that we have some understanding of the various elements in the total medical system, we can move on to developing the tools and methods utilized in the process of restructuring and rationalizing the health system.

III. IMPORTANCE OF TOOLS AND METHODS

The data and information presented in this manual were developed primarily in the Zhovkva Rayon of the L'viv Oblast in Western Ukraine during 1995-96 by the *ZdravReform* Program. However, the tools and methods provided have been designed, developed, and implemented in a number of CIS countries as well as many other countries worldwide. The basic principles and concepts presented have been advocated by the World Health Organization as well as a number of other international health organizations.

The tools and methods have been developed by a variety of health professionals including physicians, nurses, health administrators, chief doctors, accountants, economists, engineers, architects, and health systems professionals from many other disciplines. The techniques have been field-tested and proven to be successful, when applied with patience and understanding of local conditions and the local political and economic situation.

It is important to recognize that the tools and methods recommended are only guidelines to developing your own recommendations for implementation. The specific examples should not be taken as a “must do” approach to problem solving. Each district, rayon, and oblast is different and will have different needs, abilities, and political realities. Readers of the manual should take all of the local conditions into account and act accordingly.

It is equally important that the reader not take a “*it will never work here*” attitude. Successful implementation requires considerable dialogue with colleagues on the advantages and disadvantages, as well as the costs and benefits, of each of the recommendations. Experience has shown that these tools and methods can work successfully, and can result in improved quality of care, while also lowering the overall cost of care. Readers of this manual and those following these recommendations should remain vigilant and consistent in the application of these principles to their own situation.

These tools and methods are written for oblast and rayon health executives and rayon chief doctors. The format is a “how to” approach, using a step-by-step process to identification of issues and the collection of data to allow decisions to be made, with respect to changes in the system of delivering health services. Every change has both costs and benefits, and those implementing these changes should realize that the tools and methods presented here are just that—“tools”—and should be used accordingly. It is hoped that Ukrainian health officials will find these tools and methods helpful in developing recommendations for health reform.

IV. GUIDELINES AND STEPS

A. RESTRUCTURING AND RATIONALIZATION OF HEALTH SYSTEMS

1. Background to Health Systems Reform

A major step in health systems reform, which is referred to as the restructuring and rationalization process, is to review the total system with respect to the types of care being given, the types of practitioners giving that care, the facilities and services which are designed to provide that care, relationships between facilities providing care, and to ask if this can be done in a more “cost effective” way. The prior discussion of a model health system design should provide you with some of the key areas of investigation (preventive, primary, secondary, and tertiary medical care).

2. Definitions

- **Restructuring of Health Systems**

The tools and methods utilized in the “*restructuring*” of health systems are the process of reviewing and bringing about change in the type and the methods of diagnosis and treatment of various diseases, the different types of medical practitioners to be utilized, the type of facilities, and the type of personnel required. Changes in the delivery of health services should be combined with a major change in the payment mechanisms for providing health services (from historical methods to capitation type).

The present health care delivery system of Ukraine has a critical shortage of primary care physicians and an oversupply of specialists, subspecialists, and superspecialists providing care out of large hospitals, polyclinics and dispensary facilities. The present system is built on a large number of specialty institutions (Maternal, Pediatrics, Adult, Oncology, Tuberculosis, Sexually Transmitted Disease, and Psychiatry), which depend on a high number of referrals to/from these polyclinics and hospitals. This system has resulted in large quantities of unnecessary (and costly) referrals, ancillary tests, hospitalizations, and long stays in the hospital.

Restructuring of the medical system means bringing about changes in the method of diagnosis and treatment of patients, limiting referrals to specialists and ancillary services to only those cases needing a higher level of consultation. It means refocusing more resources into cost effective primary medical care, prevention, immunization, and other public health and environmental control activities. This should be combined with changes in the payment systems which develop incentives for cost effective diagnosis and treatment, and develop disincentives for unnecessary referrals and inappropriate hospitalizations.

The restructuring process is one of moving the present system toward more cost effective primary medical care and away from more expensive polyclinic and hospital

care. This process of restructuring is both a short-term and long-term technique. The short-term activities, including rationalization (see below), can begin immediately and can begin to have immediate benefits. The longer-term changes (system restructuring and payment systems changes) can begin in the second or third year and will take longer to complete (2-5 years), but will result from the changes in the payment system and will bring about more cost effectiveness, as well as quality of care improvements.

- **Rationalization of Health Systems**

“Rationalization” of health systems is a process of reviewing all levels and types of existing health facilities, health services, medical equipment and all types of personnel, and determining which might be consolidated, closed, reduced, expanded or improved. The rationalization process is one of determining the affordable number of facilities and personnel within the constraints of existing budget funding and budget cutbacks.

Recent studies have shown that there is an excess of small (20-40-bed), underutilized district and municipal hospitals in many rayons. Rationalization of these existing facilities would result in immediate savings in utilities, food, personnel, and medications in each rayon. While reducing beds in an existing facility is important, the real savings will only come from **closing** or **converting** facilities, as just reducing beds produces little *real cost savings*. Closing the inpatient unit of a small city hospital (20-30 beds) but keeping open the outpatient unit can assist with continuity of access to health services, while generating significant real cost savings.

<p>Rationalization will improve the cost structure of the health delivery system, and the savings generated can be reinvested in more primary health care activities and in improving the remaining institutions. This rationalization process should be done during the first and second year of implementation of the new payment system and could reduce the over-supply of these resources, thus providing greater incentives for efficiency and higher payment rates among the remaining institutions.</p>
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- **Organizational Decentralization and Management Autonomy**

In conjunction with the restructuring and rationalization process is the need to develop more budget and decision-making autonomy on the part of all of the health care providers (hospitals, polyclinics, feldscher units, and other practitioners). **“Autonomy”** is normally defined as the process of providing more responsibility and authority to lower-level managers in an organization. This process is normally called organizational **“decentralization”** and is the opposite of the “command and control” structure of the former Soviet Union. The concept is based on the belief that middle- and lower-level managers know more about local conditions, needs, budget constraints, and possibilities, than those at the top of the organization, and thus can make better decisions with regard to providing cost effective medical care.

3. Getting Started with the Process

Rayon chief physicians and other oblast health officials often ask the question: ***“How do we get started with this process?”*** As with any new way of looking at things, this is often the most difficult step, and often appears somewhat overwhelming. Outlined below are a few suggested items from experience in Ukraine and other CIS countries:

- Begin with developing a task force (organizational transition team) of interested and knowledgeable personnel. This group should be initiated by the rayon chief doctor, and preferably headed up by him, and should include key physicians, nursing staff, other medical personnel, and possibly interested personnel from the community. The group should be given a copy of this manual and should be given the objective of coming up with recommendations to improve the cost effectiveness of the medical care system of the rayon.
- Ask the group to complete an internal and external environmental assessment of the existing rayon health system. This would include a list of the internal **“Strengths”** and **“Weaknesses”** of the system including organizational issues. This internal analysis should be followed by an external review of the **“Opportunities”** and **“Threats”** facing the institutions in the present environment. This list might include possible competition and also a strategic map which outlines the various locations of all facilities, the catchment areas, and the referral patterns for each institution. This step is very helpful in bringing the group together and getting them to develop a consensus on the possible problems and possibilities facing the rayon health system.
- Experience has shown that the single best way to carry out the process is to go and visit each facility and see what personnel do, see the type of patients, observe the condition of the facility, review quality of care, and talk with personnel and patients. A suggested questionnaire for this visit is included as Attachment B of this manual.
- After reviewing all of the facilities and services in the rayon, the task force will have a number of areas, issues, and potential changes and recommendations to discuss. These should form the basis for the group to begin the restructuring and rationalization process. Examples of what others have found are included in the attachment section of this manual; see Attachments D and E.

<p>Beginning on the next page is a methodology for the first step of the process which is rationalization of health services. While rationalization is often viewed in a negative light (due to the political issues involved), it is a necessary process and can identify potential and possibilities for reducing costs and improving quality at the same time.</p>
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B. METHODOLOGY OF RATIONALIZATION OF THE HEALTH SYSTEM

Definition of the rationalization and restructuring process is provided in Section III of this manual. The rayon-level task force, as discussed above, should utilize the methodology to begin the process of rationalizing and restructuring a rayon or district health system as outlined below. The reader should note that it involves a number of steps which, for best results, should be carried out in the order listed. However, the list of questions to be reviewed (see Attachment B) can be reduced or added to as needed.

There are five essential steps in the rationalization process for health facilities and services:

- **Collection of the required information needed;**
- **A visit to each facility with an information questionnaire;**
- **Analysis of the data and information collected;**
- **List of findings and recommendations.**
- **Presentation and implementation**

We purposely have not included a “political” step in the process, but we know this is an important step and may overshadow the results of the previous efforts to be rational and objective. “Politics” exists in every organization and the reader of this manual is familiar with its positive and negative aspects. These are too numerous and varied to discuss here. It is sufficient to state that the political implications need to be taken into account and discussed with all key parties involved. The more communication used the more opportunity for success in carrying out your findings and recommendations.

An explanation of each step in the process is as follows:

1. Step #1: Information Required

At the beginning of the process it is important to collect the following data and information:

1. A list of the various facilities (by type, location, size, list of services provided);
2. A list of the workload (bed days, outpatient visits, etc. by department);
3. A list of the staffing and personnel (physicians, nurses, other by inpatient and outpatient and by department);
4. A list of budget and actual expenses and revenues;
5. A list of the various morbidity and mortality data;
6. A detailed map of the geographical area showing location of facilities;
7. Any other data or information available on cost, quality, or services.

2. Step #2: Information Questionnaire and Visit to Each Facility

A list of key questions and a list of the information to discuss with each chief doctor of each facility should be developed. (*See example shown in Attachment B*).

Suggestions for improving the facility visit:

- The key ingredient to a successful visit is to have reviewed some of the information in step #1 ahead of the visit. This will help the reviewer ask the pertinent questions about workload, staffing, productivity, services, quality, equipment, maintenance, etc.
- In visiting the facility, the reviewer should begin by sitting down with the chief doctor and his deputy or other relevant staff, and review the questions on the questionnaire. The issues about service area, special diseases, major problems, and strengths and weaknesses of the institution are especially important.. While hospitals often look the same, they all have special characteristics and special conditions.
- One of the most important parts of the visit is a tour of the entire facility, including all ancillary departments, sections, rooms, wards, bathrooms, toilets, floors, and outbuildings not attached to the main building. By visiting each section and department you can question staff about workload, staffing, quality, and problems unique to their department. You can observe first-hand how many patients you see, what condition the equipment is in, what supplies and materials are in short supply, and how busy the staff is with patients. You should observe and note the condition of the building, the maintenance, water damage, equipment use or non-use, heating, electrical systems, water and sewage systems, storage facilities, and other building resources. All of these areas are critically important to understanding the institution and its problems, needs, deficiencies, and potential. It will also let you verify or question what the chief doctor has told you about the conditions.
- The tour will give you an excellent opportunity to note the diagnostic and treatment capabilities of the facility, as well as the acuity of patients. Talk with patients about their assessment of the conditions, staff, facilities, food, medications, and quality of care, as well as their social welfare and well-being. The tour will allow you to talk with physicians in each section about their perceptions of equipment, staff, medications, instruments, quality of care, length of stay, workload, productivity, cost, maintenance, and management of the institution. These questions will allow you to better understand the patient environment, and the conditions that exist from a patient's standpoint. It will verify what the chief physician has told you or will bring new questions and concerns to your mind about what you have been told vs. what you see for yourself.
- After the tour you should write up you impressions and perceptions while they are still fresh in your mind. This will help you put things into context with other facilities you have visited and should quickly give you some trends, similar problems, and similar conditions.

3. Step #3: Analyzing the Data and Information Collected

After your tour you should return to the data previously collected and review any inconsistencies you noted. It is important to begin calculations of key indicators of cost per unit, cost per department, cost per budget chapter, workload by department, productivity of personnel by department, disease trends, mortality/morbidity indices, trends in workload and staffing, inpatient vs. outpatient costs, and other key indicators of financial and quality performance. Analysis should be both broad and specific, depending on the needs of the survey. Broad analysis about quality, cost and access are required, as well as specific analysis about the condition of individual facilities. The analysis should cover all areas of management, finance, quality, access, cost, productivity, workload, staffing, drugs and pharmaceuticals, equipment, medical instruments, supplies and materials. *The review of data supplied by the facility should be viewed with a good deal of suspicion as, due to budget issues over the last years, health facilities have reported actual and budget figures to be similar, although they are in most cases very different from each other.*

Outlined in Attachment C are *examples* of the type of data and information which was collected in the Zhovkva Rayon, as well as a presentation and discussion of the analysis and conclusions drawn from the data. This information should provide the reader with some understanding of the issues and concepts to be highlighted. We did not present all of the data collected due to space and time constraints, but the schedule in Attachment B presents the facility questionnaire and list of questions and data utilized. We begin with a list of the findings to present some idea of the type of discussion which should result in findings and then recommendations.

4. Step #4: Findings and Recommendations

Upon reviewing the data collected and the information from the visit to each institution, you should begin to write down possible findings and recommendations. It is helpful to group these recommendations into financial, quality, management, building, equipment, etc. areas so that they will be more meaningful when presented. You will also note similar problems at all institutions, at smaller facilities, inpatient and outpatient areas, and general themes which flow across all areas. You will want to include the possibility of closing, merging, consolidating, improving, enlarging, and expanding facilities and services. Recommendations on education and training are especially important, as well as changes to the health system delivery of PHC, Primary, Secondary, and Tertiary Medical Care.

At the conclusion of this exercise you will have many items which should be reviewed or followed up with colleagues or other professionals who can assist you in your thinking. This will help you to verify your findings, conclusions and recommendations, or will allow you to change any misperceptions you may have had. Often, first impressions are lasting, but often they can be incorrect.

Outlined in Attachments D and E are some examples of the findings and recommendations sections from the Zhovkva health systems review. These are provided to give the reader an example of how the recommendations section of the report might be presented.

5. Step #5: Presentation and Implementation

The final steps are for the task force to write up and present their findings and recommendations. This is always the most difficult part of the process and the one that is the most critical. Discussion of the findings and recommendations with the chief physicians can be an exciting and stimulating process. Working together to arrive at workable solutions is the key to success. Setting goals for implementation is the last part, and the final step is the actual implementation. As with all projects, you must build in a follow-up and reporting procedure to ensure that recommendations are carried out until complete (see the Implementation section of this report, Section V). Building in some type of evaluation process is also important so that it is possible to determine if the changes had the effect or impact that you desired.

The five steps, if carried out in a rigorous, objective manner, will identify facilities and services which are underutilized and may be consolidated with other facilities, or converted from inpatient to outpatient facilities, closed, or possibly improved, pending available funds. While rationalization can sometimes be difficult to achieve, due to local economic or political situations, it is worth the effort and can result in lower cost and improved quality at the same time, and most importantly, it can help the health department improve the health status of the population.

A number of rayons within Ukraine have had considerable success with the rationalization of services and facilities. While all rayons have had to reduce under-utilized beds, many rayons have systematically rationalized the health delivery system. Kodyma Rayon in eastern Ukraine has converted five town hospitals into out-patient facilities, reducing 130 beds in the process. Zhitomir in central Ukraine has reduced the number of inpatient facilities and decreased the number of outpatient facilities.

The next section discusses the process of restructuring the health system, which is a long-term process that could take from three to five years depending on resources, incentives, and political will.

C. RESTRUCTURING THE HEALTH SYSTEM

Outlined below is a discussion of the issues, concerns, problems, and opportunities facing the rayon or oblast in bringing about a “restructuring” of the health delivery system. The items listed are from experiences in Ukraine and other CIS countries. Restructuring is a long-term process that involves major changes in thinking, medical education and training, payment incentives, and other activities in the larger national and local medical care system.

1. Refocusing More Resources into Primary Medical Care

The existing health care delivery system has a shortage of primary care physicians (internists, obstetrician/gynecologists, pediatricians), and those practicing primary care do not diagnose and treat patients effectively, but usually refer patients to the next higher level, i.e., to specialists and subspecialists in the polyclinics. While the reasons for this are varied (lack of equipment, little diagnostic capabilities, few medications, insufficient training, etc.), it will be necessary to focus more resources into delivering improved methods of primary medical care if the health care delivery system is to operate more cost-effectively. The introduction of new payment systems should focus more attention and resources on prevention and primary medical care.

Successes in other CIS countries, and other countries worldwide, have shown that restructuring is possible by assisting primary care physicians, and specifically developing more “**Family Medicine**” practitioners. Some CIS countries have also set up Primary Group Practices (PGP) and **Family Group Practices (FGP)**. This requires providing assistance to these physicians in moving out of the polyclinics and in getting set up in groups to work together in treating the total health care needs of the family. This is the concept known as “**Family Medicine**” whereby the various practitioners practice as a group, and not as specialists, and see whichever member of the family presents him/herself for diagnosis or treatment. This system results in fewer referrals to specialists and polyclinics, and fewer admissions to hospitals. This requires training and education as well as funds for minor equipment, medications, and improving diagnostic and treatment capabilities.

<p>Development of family medicine and primary care have succeeded in a number of cities and rayons in Ukraine, especially in L'viv City, Zhitomir, Zhovkva, Skolie, Yavoriv, and Koydma Rayons. In L'viv, City Hospital #1 and Polyclinic #2 have strengthened family medicine and improved primary care. Zhitomir has restructured to focus more on primary care services and Kodyma has improved family medicine. These types of changes have also been successful in other CIS countries. In Kyrgyzstan and Kazakhstan, one oblast set up over 80 family group practices with primary care physicians who work either in separate office locations or in joint office locations within the polyclinics. These groups are moving toward private practice and away from dependence on the Oblast Health Department.</p>

Without forming group practices, much can still be done to refocus more resources into primary care. The excess of specialists, and the closing of some inpatient units, will provide practitioners that can be retrained in primary care techniques. These former specialty physicians can also be retrained and utilized for more out-reach care and home care services. The concepts of improved primary care are well known, and a variety of publications and information from WHO, UNICEF, and other international health organizations are readily available.

Outlined below, for the purpose of review and repetition, are the key elements in the health delivery system, using Zhovkva as an example:

{ LINK Word.Document.6 "C:\\TMP\\pdf\\0381\\ENGLISH\\Chart 1.doc" \\a \\p } { LINK Word.Document.6 "C:\\TMP\\pdf\\0381\\ENGLISH\\Chart 2.doc" \\a \\p }

Outlined on the next page is a pictorial example of the health system of the Zhovkva Rayon before the process of restructuring and rationalization. The picture is meant to present an *under*-developed primary care service, and an *over*-developed secondary and tertiary care service. In comparing it to the ideal medical care triangle above, you will note that the health system now looks like a Chinese lantern and not a triangle, which is the ideal model.

The ideal model portrays that a health system should be spending a larger portion of its resources on prevention and primary medical care services, which are more cost effective. The cost of secondary and tertiary care is significantly more than primary care. Consequently, the trend in all developed countries has been toward improving primary care and reducing the amount of resources that go into secondary and tertiary care.

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A variety of tools and techniques are available to improve the process of restructuring health delivery systems. Most of them are presented in the following sections of this manual. Many of the techniques are well known to medical professionals in CIS countries. These include the use of trend analysis and review of morbidity and mortality statistics in a given area, as well as the review and trend analysis of utilization statistics for various types of facilities. Another technique which is taken from business and industry is a procedure known as “**Strategic Mapping**”. This is a process of using a geographical map of the area (city or rayon) showing the various facility locations, and outlining the referral patterns currently supplying services to the patient population. Using this technique a facility can identify gaps in services or demand and make plans to meet these needs in those specialties.

Other tools and techniques for restructuring and improving the quality of services to the population are listed on the following pages.

2. Forming Private Specialty and Multi-Specialty Clinics

With the improvement in primary care will come a reduction in the number and type of referrals to specialists and subspecialists. While there will still be a strong need for high-quality specialists, there will also be a reduced need for numbers of these specialists—fewer specialists will be needed than are now available in the system. Changes in payment methods (from historical methods to capitation-type systems) should allow specialists and subspecialists to move toward forming private, high-quality specialty groups and multispecialty groups.

This means that these physicians would form private specialty groups and private multispecialty groups that would handle those referrals from the primary care physicians in a more cost effective manner. The type of specialties required should be developed by the needs of the market and the type of referrals the primary care physicians feel are the most important. Some assistance to these groups would be needed in training, education, equipment, and other areas of improving diagnostic and treatment capabilities.

Privatization should mean giving increasing levels of management and financial autonomy to these multispecialty clinics, and moving them away from the hospital organizations and away from the Department of Health. These arrangements can be strictly private or strictly public or a combination of both. A number of these arrangements are under development or have already been formed in Ukraine (L'viv and Odessa) as well as other CIS countries.

3. Operational Assessment/Internal Analysis

The techniques of operational assessment and internal analysis of operations can significantly improve the reorganization and restructuring process. Reorganizing departments along more efficient lines and delegating responsibility and authority to lower levels of the organization can assist in developing improved accountability among managers. One of the most effective tools is the decentralization of the budget process to lower-level managers in the organization. Utilizing an improved management accounting system with individual department responsibilities and reporting can greatly assist the restructuring process. In-depth discussion of these issues is too complex for this manual. Please refer to the *ZdravReform* Program in L'viv for further information.

4. Improved Transportation Systems

The restructuring and rationalization of health services often requires improvements in the district- or rayon-level transportation system. The closure of some inpatient units may require that the population have access to some type of transportation system, ambulance, automobile, or bus in order to move patients to higher-quality facilities.

5. Norms, Standards, and Treatment Protocols

The existing health system relies heavily on norms and standards. There are norms for the number of physician visits by specialty type, norms for complexity groups, norms for length of stay (LOS) by disease type, and medication and nutrition norms. While the concept of norms and standards is critically important from a professional standpoint, it can become a significant deterrent to improved productivity, especially in an environment that requires everyone to do more with less. Norms keep personnel from striving for greater productivity, and personnel may feel that if they achieve the standard they can relax and need do no more. Standards imply there is only “one best way” to do things. The most significant change in the area of quality assurance and cost/quality improvement over the last ten years has been a movement away from rigid standards toward a more open, more questioning, more “**do it, try it, fix it**” approach.

6. Treatment of TB and STDs

Norms and standards are especially apparent in the treatment of some diseases including TB and STDs. Treatment protocols in other developed countries have moved toward almost exclusive treatment on an **outpatient basis** of these diseases once the patient is no longer able to involuntarily infect others. A review of the data and discussion with physicians have shown that in Ukraine patients with these types of diseases are treated as inpatients and kept for long periods of time. While this may be correct procedure in a system with many resources, it is a poor use of critical resources in a system that is underfunded. The issue is less the method of treatment and more the issue of trying to find new, more cost effective ways to provide the services and treatment to patients.

7. Quality Assurance and Quality Control Processes

In order to ensure that health services are delivered to the population in an effective manner, it is necessary to develop quality assurance and quality control processes, procedures, and practices. The specifics of these processes are presently being developed and include the following:

a. Admission and Discharge Criteria

High-volume procedures in hospitals will need to have admission and discharge criteria established for each procedure to ensure that patients are not admitted unnecessarily and that they are not kept in the hospital longer than necessary, as well as ensuring they are not discharged prematurely. The in-depth discussion of these criteria is too lengthy for inclusion in this manual. Please refer to other *ZdravReform* publications for examples of these criteria.

b. Model Practice Protocols

High-volume, high-cost procedures will require practice protocols to ensure that all patients are being treated in a high-quality and cost effective manner. The primary care physicians will also need practice protocols to assist in the diagnosis and treatment of patients at the primary level, and to ensure that patients receive appropriate care which is also high-quality and cost effective. An in-depth discussion of these criteria would be too lengthy for this manual. Please refer to other *ZdravReform* publications for examples of these protocols.

c. Referral Guidelines

Primary care practitioners will need to have guidelines developed for referrals to specialists, subspecialists, and superspecialists, in order to ensure that patients are not referred unnecessarily to specialists or not referred when they should be referred. In-depth discussion of these guidelines would be too lengthy for this manual. Please refer to other *ZdravReform* publications for examples of these guidelines.

d. Drug Formulary

Hospitals and outpatient facilities will need to develop drug formularies and improved drug information systems to ensure cost effective prescribing, procurement, and distribution of efficacious pharmaceuticals and medications. The new payment system should only pay for medications and pharmaceuticals that are included in this list. In-depth discussion of drug formulary protocols would be too lengthy for this manual. Please refer to other *ZdravReform* publications for examples of these criteria.

e. Licensing and Accreditation Criteria and Standards

A system of licensing and accreditation of facilities may need to be established, with various criteria and standards for compliance with accepted norms of quality, equipment, personnel, and staff behavior and practice. Any facility which is licensed would be able to receive the standard payment rates, while others would be penalized. The development of licensing standards is a critical determinant in the long-term viability and quality assurance of the medical system. Preliminary work has been completed by *ZdravReform* in Ukraine and is available through the *ZdravReform* office.

f. Clinical Protocols/Clinical Pathways

A number of institutions have implemented clinical protocols and clinical pathways for identifying the most effective method of diagnosis and treatment of high-volume procedures. Readers of this manual are familiar with clinical protocols, but the Clinical Pathways System is a newer technique developed to assist with high quality while still reducing cost and especially length of stay in the hospital. Significant work has been

done in L'viv at a number of hospitals, and information is available through the *ZdravReform* office.

V. RECOMMENDATIONS FOR IMPLEMENTATION

A. BACKGROUND

This section includes issues and strategies for implementation of recommendations. The task force or organization transition team will need to give advice on implementation to the chief doctor as well as simply recommendations. It is often easy to merely give recommendations, but it is much more difficult to outline the 'who', 'how', and 'when', as well as the 'why' for each recommendation.

As previously highlighted, the Zhovkva Rayon in the L'viv Oblast in western Ukraine was the major setting for development of the guidelines and recommendations in this manual. *ZdravReform* activities in a number of other CIS countries have also gone into this section, although they are not highlighted by country or location.

B. IDENTIFICATION AND DISCUSSION OF THE DIFFICULT ISSUES

Outlined below are a number of issues that were identified as sensitive and difficult in connection with both restructuring and rationalization of the health system. While readers of this manual are already familiar with the issues, they are repeated here to give the reader assurance that he or she is not alone in attempting to find solutions to difficult problems in a very difficult economic and political environment. If rationalization and restructuring are to be successful, Ukraine's health care managers must find workable and practical solutions to these issues.

1. Employment, Staffing, and Personnel Reductions

The concept of “restructuring and rationalization” normally connotes potential savings and cost reductions in personnel costs. Personnel costs as a percentage of total costs in the health facilities in Zhovka Rayon represented approximately 40 percent of the total costs and have recently risen to 80 percent in some facilities. If facilities are to be consolidated and closed, the potential for large savings is apparent. However, considering the economic, social, political, and employment situation in the country, serious consideration will have to be given to finding new positions for these personnel where possible. Some personnel, for personal reasons, will self-select out of the systems, and others may or may not like their new locations. In any case there will be reductions and some savings in personnel expenses, but these may not be great. While some of the positions can be focused into more primary care activities, other personnel will need to be moved to facilities which may already be “over staffed.” Considerable discussion will need to center around how, when, and where to handle these redundant personnel.

2. Social and Welfare Patients, Issues and Concerns

Many of the patients in some of the hospitals are primarily admitted and stay long periods of time due to social or welfare issues and are often poor, hungry, and cold, may have some minor medical problem, but are not acute care patients, and need not be institutionalized in acute care facilities. These patients are the concern of the system, and a method of assisting them must be developed and implemented. Other CIS countries as well as Ukraine have found creative and unique methods of handling these issues, including the establishment of low-intensity units, getting the community leaders involved in the problem, local philanthropy, home care, and various other solutions.

The key to solving these issues is having a positive attitude and looking for new and creative solutions to the problem. Many rayons in Ukraine have found creative solutions to these issues including private philanthropy, getting the social welfare department more involved, bringing local political leaders in to help, placing patients with families, more home care, and others.

3. The Concept of the General Hospital

The old Soviet health care system was built on the concept of many different specialties, subspecialties, and superspecialties, as well as the concept of many different types of hospitals with smaller, single buildings for each special disease type. From a productivity standpoint (capital, facility, equipment, and personnel) this system results in low productivity and duplication of equipment, personnel, and facilities. Other developed countries outside the old USSR, and more recently within the CIS countries, have moved toward the concept of a “general hospital” with various specialties becoming departments of one major facility. In this way all specialties can share the same critical mass of ancillary services (laboratory, radiology, physical therapy, pharmacy, etc.) and plant equipment (heating, water, sewer, etc.), exploit economies of scale and scope, and achieve significantly higher productivity in all areas.

While this concept is a new one for Ukraine, and it will be difficult to build new facilities due to capital shortages, the concept should be discussed and merits and disadvantages outlined. If a rationalization process is to be successful, the consolidation of many smaller, specialty facilities into a larger single facility could yield significant improvements in cost, quality, and productivity of staff, equipment, capital, and facilities.

4. Staffing and Activity Levels

The old Soviet health care system was built on the concept of a large number of specialty hospitals, with a high number of admissions, heavy referrals to specialists in the polyclinics, and long lengths of stay in hospitals. The system developed separate facilities for most medical and surgical specialties, and duplicated equipment, personnel, and

ancillary services. The result was a system that required large numbers of hospital staff and personnel to handle these admissions, referrals, and outpatient visits, which over time became very labor-intensive. This system worked when it was fully funded. However, the environment has changed dramatically and a new system design is needed in a resource-poor environment. Both by observation and by review of the data, it has been documented that the productivity levels of staff are low. Many services are underutilized, but continue to have large numbers of physicians, nurses, and other personnel. This has become a significant waste of resources in a resource-poor environment.

Due to the present economic, political, and social environment, it is not possible to discharge large numbers of staff. However, the health leadership should begin discussion on how to improve the productivity of staff over the long term. Many rayons in Ukraine are restructuring positions to require staff to work in both inpatient and outpatient areas.

These five issues will require significant discussion at senior leadership levels if a serious attempt is to be made at improving both the quality and cost of the system with no new money, under a capitated global budget system. Experience has shown that the leadership from all areas of the local, rayon, and oblast levels need to be involved in the decision-making process for these changes. Bringing together the leaders and managers from the MOH, MOF, and other agencies is an excellent way of sharing the problems and possible solutions with colleagues whose support and cooperation will be necessary in implementation of the changes.

VI. SUMMARY AND CONCLUSIONS

This “how-to” manual on *Organizational Restructuring and Rationalization of a Rayon or District Level Health Delivery System*, is meant to provide guidelines to health officials at all levels interested in health reform in Ukraine and other CIS countries. The manual provides a methodology, developed in Ukraine, on how to reorganize, restructure, and rationalize a health system in order to reduce the overall costs by closing beds and facilities while improving quality at the same time. The highlights of the proposed recommendations will allow health leaders in Ukraine to achieve the following:

- **Improved primary care for the whole population;**
- **Improved overall cost effectiveness of the whole health system;**
- **Reduced cost of ancillary services;**
- **Reduced referrals to hospitals and polyclinics;**
- **Reduced hospitalizations and lengths of stay in hospitals;**
- **Improved quality of services; and**
- **Higher levels of satisfaction with health services among the population.**

The process of restructuring and rationalizing a rayon-level health system requires a rigorous methodology of reviewing every aspect of the health care network. This includes a review of all levels of care, all types of medical practitioners, the number and type of facilities, and a review of personnel and quality control at all levels. The process can be time consuming but is worth the effort and can result in the improvement of quality and the reduction of cost at the same time. Combined with changes in payment mechanisms, the system can develop incentives for continuing cost reduction with improvements in overall satisfaction and quality of care. The lessons learned by rayon health leaders is that the cost in time is worth the effort and that communities and patients can change their perceptions.

In conclusion, the present economic difficulties and the transition period from a centrally planned economy to a free-market structure in CIS countries will require a new, objective look at the costs, benefits, advantages, and disadvantages of the existing health system. New times require new ways of thinking and more importantly, new ways of management. Health reforms in Ukraine will happen regardless of the difficulties involved, and the real question is whether the health leadership is optimistic and forward-looking, or pessimistic and backward-looking.

<p>This “how-to” manual is meant to provide information and knowledge on the experience of others in the implementation of health reform. It is hoped that the existing leadership will utilize this information in developing improved health care services for the people of Ukraine.</p>
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VII. ATTACHMENTS

A. LIST OF ACRONYMS

ALOS	Average Length of Stay
CIS	Commonwealth of Independent States
ECG	Electrocardiograph
FOU	Feldsher Obstetric Unit
GP	Group Practice or General Practitioner
IDS	Intensive Demonstration Site
IS	Information Systems
MIS	Management Information Systems
MOF	Ministry of Finance
MOH	Ministry of Health
OHD	Oblast Health Department
PAC	Physicians Ambulatory Center
PT	Physical Therapy Department
STD	Sexually Transmitted Disease
TB	Tuberculosis
USAID	United States Agency for International Development
ZRP	<i>ZdravReform</i> Program

B. KEY LIST OF QUESTIONS AND DATA FOR FACILITY VISIT

NAME OF FACILITY:

NAME OF INTERVIEWEE:

PHYSICAL PLANT

- Number of Total Beds:
- Number of Beds in Service:
- Number of Buildings:
- Types of Buildings:
- Age of Physical Plant:
- Condition of Plant:
- Type and Condition of Heating Systems:
- Type and Condition of Water/Sewage/Trash/Garbage Systems:
- Type and Condition of Medical Equipment:
- Other:

SERVICES AND PROGRAMS

- Catchment/Service Area:
- Type of Population:
- Inpatient Services/Programs:
- Number of Beds by Service:
- Specialty Beds:
- Outpatient Services/Programs:
- Days/Hours of Operation for Clinics:
- Referrals to/from other Hospitals:
- Ambulance Services:
- Laboratory Services:
- Radiology Services:
- Primary Health Care Programs:
- Immunization Programs:
- Family Planning:
- Other:

WORKLOAD AND KEY PATIENT ACTIVITY

- Total Patient Days:
- Days by Service:
- Total Admissions/Discharges:
- Occupancy - (Total and by Service):

- Length of Stay - (Total and by Service):
- Deliveries:
- Operations/Surgery (Inpatient and Outpatient):
- Major Changes since Independence (Closed Beds/Services:)
- Other:

CLINICAL/MEDICAL

- Most Common Diseases:
- Most Common Admissions:
- Morbidity/Mortality Indicators:
- Environmental Health Concerns:
- Seasonal Patterns to Diseases/Patient Behavior:
- Number of Deaths and Number of Autopsies:
- Other:

PERSONNEL

- Number of Physicians:
- Number of Nurses:
- Number of Other Staff:
- Number of Part-time Staff:
- Total Staff:
- Administration/Management/Supervision:
- Accounting/Financial:
- Training and Use of Incentives/Bonuses:

BUDGET

- Total 1994/95:
- By Chapter:
- Drugs and Pharmaceuticals:
- User Fees:
- Estimated % Inpatient vs. Outpatient cost:
- Estimated % of Total Cost which are Personnel:
- Percentage of Costs that are Variable:
- Private Practice Activities:
- Estimated Effects of New Budget System in 1996:

OTHER ISSUES:

- Biggest Problems:
- Strengths/Weaknesses of Institution:

C. EXAMPLES OF DATA COLLECTED

Outlined below are some examples of the data collected:

Table 1 presents background information on the health infrastructure of Zhovkva Rayon in comparison to other rayons in the L'viv Oblast:

Table 1 Health Infrastructure of Zhovkva Rayon Compared to All Rayons in L'viv Oblast, 1994		
	Zhovkva Rayon	All Rayons (mean, n=20)
Population	111,500	79,300
Percent Urban Population	37.3	31.7
Central Rayon Hospitals	1	0.95
Rayon Hospitals	1	0.75
City Hospitals	3	1.15
District Hospitals	2	1.65
Dispensaries and Other Facilities	1	1.0
Percent of Hospital Beds in Central Rayon Hospital	47.8	50.1
Ambulatories	5	6.1
Feldscher/Gynecological Units	58	52.8
Percent of Feldscher Units with 3 or More Rooms	93.1	55.1
Percent of Feldscher Units with Medical Workers	100.0	96.9

Source: Lviv Oblast Annual Health Report, 1995

Table 2 presents service ratios for doctors, nurses, and hospital beds in Zhovkva Rayon, compared to all rayons and to the total oblast. These data show that Zhovkva Rayon has a typical endowment of doctors and nurses, compared to other rayons, but considerably fewer than the relative number in the total oblast, which includes city facilities and oblast-

level facilities, most of which are located in L'viv City. Zhovkva has fewer hospital beds per 10,000 population as compared to all rayons (71 compared to 84) and many fewer than the total Oblast (110). With the closing of 70 additional hospital beds in 1995, Zhovkva currently has 65 hospital beds per 10,000 population, which is considerably lower than the average across all rayons.

Table 2 Health System Service Ratios in Zhovkva Rayon, All Rayons and Total L'viv Oblast, 1993			
	Zhovkva Rayon	All Rayons	Oblast
Number of Doctors	227	3,537	10,710
Number of Nurses	713	10,410	95,036
Number of Hospital Beds	795	14,330	29,797
Doctors per 10,000 population	20.4	22.3	35.7
Nurses per 10,000 population	63.9	65.6	92.9
Hospital Beds per 10,000 population	71.3	84.4	110.3

Source: L'viv Oblast Health Administration Annual Report, 1995

Table 3 presents statistics on hospital utilization in Zhovkva Rayon compared to those in all rayons and the total oblast. These data show that Zhovkva's significantly fewer hospital beds are utilized more heavily than those of other rayons and than those in the total oblast. Zhovkva's bed turnover rate (number of discharges per bed) of 22, and bed occupancy rate of 89 percent are slightly higher than the corresponding numbers in all rayons (20 and 85 percent) and in the total oblast (19 and 88 percent). Zhovkva's average length of stay (15 days) is slightly lower than that for all rayons (16 days) or for the total oblast (17 days). Mortality (deaths per 100 hospital discharges) was lower in 1994 in Zhovkva Rayon (0.4) than in all rayons (0.6) or the total oblast (0.9). Hospitals in Zhovkva Rayon provided about the same number of laboratory tests and radiology exams as all rayons, but fewer of both types of procedures than did the total oblast. The number of physiotherapy procedures was lower in Zhovkva Rayon compared to all rayons, but about the same as in the total oblast.

Table 3 Hospital Service Statistics in Zhovkva Rayon Compared to All Rayons and Total Oblast, 1993			
	Zhovkva Rayon	All Rayons	Oblast
Number of Hospital Beds	795	14,330	29,797
Number of Discharges	17,238	279,328	558,007
Number of Bed Days	258,069	4,438,016	9,546,705
Bed Turnover Rate (discharges per bed)	21.7	19.5	18.7
Occupancy Rate	89.0	84.9	87.7
Average Length of Stay	15.0	15.9	17.1
Mortality Rate (deaths per 100 discharges)	0.4	0.6	0.9
Number of Laboratory Tests per 100 Discharges	2,480	2,513	2,838
Number of X-ray Tests per 100 Discharges	48	43	61
Number of Physiotherapy Procedures per 100 Discharges	756	927	775

Source: Oblast Health Administration Annual Report, 1995

Table 4 presents the estimate of potential cost savings from closing inpatient facilities at four town hospitals. The direct monetary savings from closing the inpatient facilities in the four town hospitals at Dublyany, Mageriv, Dubrosyn and Giyche would be in the form of reduced consumption of energy, food, medicines, and linens. Table 4 lists each facility's expenditures on these four items during 1995 (nine months of data, annualized).

Table 4 Expenditures on Energy, Food, Medicines, and Linens Dubrosyn, Giyche, Mageriv, and Dublyany Hospitals, 1995 (annualized) (000 kupons)					
Expenditure Category	Dubrosyn Hospital	Giyche Hospital	Mageriv Hospital	Dublyany Hospital	Total
Energy (Article 3)	261,919	371,333	248,800	1,510,123	2,392,175
Food (Article 9)	198,473	470,800	236,533	870,022	1,775,828
Medicine (Article 10)	483,351	277,600	843,600	2,144,933	3,749,484
Linens (Article 14)	-	15,200	-	-	15,200
Total	943,743	1,134,933	1,328,933	4,525,078	7,932,687

There is no direct basis for estimating the share of energy and food expenditures which would be saved by closing inpatient facilities. In Kulikiv, where inpatient beds were closed in July 1995, the energy savings were substantial. Instead of needing to be fired up twice per day, the furnaces need to be fired up only once per day now. In addition, the space formerly used for inpatient beds does not need to be heated at all. In our estimates, we assume that energy savings will amount to 50 percent of 1995 expenditures. We also estimate conservatively that food savings will also be equal to 50 percent of 1995 expenditures. With the closing of inpatient services, no meals will need to be served to patients, and staff will require only one meal per day. In the case of medicines, we used expenditures on medicines per outpatient visit in the rayon's five ambulatory facilities (14,967 kupons), in conjunction with the number of outpatient visits in each hospital, to estimate expenditures on medicines for outpatient services for each hospital in 1995. Lastly, we assumed that all linen expenditures would be saved from the closing of inpatient services. The resulting estimates of direct monetary savings from closing inpatient services at the four town hospitals are reported in Table 5.

<p align="center">Table 5 Estimated Savings on Energy, Food, Medicines, and Linens from Closing of Inpatient Services at Dubrosyn, Giyche, Mageriv, and Dublyany Hospitals (000 kupons)</p>					
Expenditure Category	Dubrosyn Hospital	Giyche Hospital	Mageriv Hospital	Dublyany Hospital	Total
Energy (Article 3)	130,960	185,667	124,400	755,062	1,196,088
Food (Article 9)	99,237	235,400	118,267	435,011	887,914
Medicine (Article 10)	301,996	101,932	626,504	1,036,701	2,067,133
Linens (Article 14)	-	15,200	-	-	15,200
Total	532,192	538,199	869,171	2,226,774	4,166,336

In addition to the direct monetary savings from closing inpatient services at these four hospitals, the staff currently assigned to their inpatient departments will be freed to pursue other work. Table 6 presents the current staffing of these four hospitals for inpatient and outpatient services. Thirty-seven percent of the total staffing of these four hospitals (82 of 219 persons) is currently assigned to inpatient services. These staff would be freed for other assignments with the closing of inpatient units. A surprising feature of the current staffing of these facilities is the relatively small number of doctors currently assigned to inpatient services (a total of three doctors). For example at Dublyany Hospital, only one of 23 physicians on the staff is assigned to inpatient services. At the other three hospitals, only two of 12 doctors are assigned to inpatient services. This imbalance in staffing between doctors and other staff in inpatient services may make it more difficult to use the freed inpatient staff cost-effectively to provide ambulatory services. In addition, some of the "other staff," particularly cooks, cleaners, and furnace stokers, may be difficult to employ productively in ambulatory facilities. If it proves possible to eliminate some of these positions over time, this will result in additional savings from closing the inpatient facilities. Salaries (Article 1) and salary taxes (Article 2) currently account for a large part of the total expenditures in these four facilities: Dubrosyn Hospital (2.5 billion kupons, 72.1 percent of total expenditures), Giyche Hospital (2.6 billion kupons, 69.1 percent of total expenditures), Mageriv Hospital (3.3 billion kupons, 71.1 percent of total expenditures), Dublyany Hospital (9.1 billion kupons, 66.5 percent of total expenditures). It is clear from these data that staff reductions have the potential to produce substantial additional savings for the rayon health system over time.

Table 6 Current Staffing of Inpatient and Outpatient Departments at Dubrosyn, Giyche, Mageriv, and Dublyany Hospitals, 1995					
	Dubrosyn	Giyche	Mageriv	Dublyany	Total
<i>Inpatient Departments</i>					
Doctors	1	0	1	1	3
Nurses	6	5	5	9	25
Medical Aids	5	4	7	12	28
Administrative Staff	1	1	1	1	4
Other Staff	8	8	6	0	22
Subtotal	21	18	20	23	82
<i>Outpatient Departments</i>					
Doctors	2	4	4	22	32
Nurses	2	6	16	34	58
Medical Aids	3	2	5	12	22
Administrative Staff	0	0	0	0	0
Other Staff	3	1	5	16	25
Subtotal	10	13	30	84	137
TOTAL	31	31	50	107	219

D. EXAMPLES OF FINDINGS

Outlined below are some examples of findings from the task force which was asked to come up with rationalization and restructuring recommendations in the Zhovkva Rayon.

1. Over the last four years Zhovka Rayon has made significant progress in consolidating many activities, reducing beds, and improving the management of hospitals, polyclinics and other facilities, in a very difficult environment of limited resources.

2. A review of the existing data, and discussions with physicians and administrators, have shown that the normal systems pyramid of the relationship between primary, secondary, and tertiary care, has become more like a “Chinese lantern”, with a smaller primary care portion at the bottom of the pyramid, and a large bulge in the middle with referral secondary care, and a larger than normal level of tertiary care. This has lead to a serious shortage of primary care physicians and treatment and unnecessary referrals to polyclinics and hospitals. *If the system is to treat patients more cost effectively, there will need to be a major shift toward more primary medical care and family practice medicine, which will reduce the number of referrals to specialists at the polyclinics and hospitals.*

3. A tour of the facilities, both hospitals and polyclinics, and discussions with hospital administrators have *shown that 1995 activity levels are significantly below those shown in the 1994 database, and that there are significant numbers of empty beds and underutilized outpatient services (especially in the afternoons) at every institution.* This means that the opportunity for consolidation of beds and outpatient services is feasible at this time. Additional consolidations are possible as more admissions are screened and lengths of stay are reduced following implementation of the new capitated global budget system.

4. Discussions with hospital chiefs and a review of the data indicate that patients are bypassing rural town hospitals and ambulatory facilities (due to lower levels of quality in staff, equipment, medications, etc.) and going directly to rayon-level polyclinics and hospitals or to the facilities in L'viv City.

5. Chief and deputy chief physicians at most of the facilities are not familiar with the budgets and costs of operating their institutions. The attitudes of many of the chief doctors toward problem solving in an environment of no new money, and having to do more with less, are not encouraging. While the leadership is ready to meet the challenge, the management at lower levels still feels that increasing the quantity of funds into the system is the only solution to improving quality, access, and cost.

6. The quality of services at the four town hospitals has deteriorated in recent years. A review of these four facilities has shown the following:

- Giyche (25 beds) has minimal diagnostic capabilities, including no working radiology unit, major facility maintenance problems, high energy costs, low and declining

occupancy, few acute patients, and is a short distance (14 km) from the Rayon Hospital at Rava Ruska.

- Mageriv (25 beds) has had major difficulty attracting physicians (Ob/Gyn, Peds, Internist), no working radiology unit, outdated and poorly functioning equipment, minimal diagnostic services, a shortage of medications and food, continual heating and electrical problems, low and declining occupancy and few acute patients, needs major building maintenance, and is only 15 km. from Rava Ruska.
- Dobrosyn (25 beds) has minimal staffing and diagnostic capabilities, equipment, supplies and medications; houses primarily non-acute, social welfare patients with minor medical problems; has low and declining occupancy; high energy costs; and is only 10 km from Zhovkva. If a facility for non-acute patients is still felt to be required, the new facility should be a unit of an existing facility which is on the centralized heating system in order to minimize the marginal energy costs for those patients.
- Dublyany (40 beds) has a shortage of medications and supplies; outdated and poorly functioning medical equipment; minimal diagnostic capabilities and a poor radiology unit; major problems with the 100+ year old building, with the roof, water, sewage, and maintenance; is unable to change the building configuration (due to architectural monument); has declining inpatient occupancy and few acute patients; and 40 percent of the area patients go to L'viv city for their medical care.

E. EXAMPLES OF RECOMMENDATIONS

Outlined below are examples of the recommendations which were developed by the task force on rationalization and restructuring of the Zhovkva Rayon.

1. The Town Hospitals

In a situation where the rayon health budget is severely limited, as is the case currently, difficult choices are necessary. Scaling back the budgets to all hospitals proportionately will rarely be the best strategy. Instead, it is important to protect the budgets of one or more key facilities so that quality acute care is still available within the rayon. The town hospitals at Dublyanyi, Mageriv, Dubrosyn, and Giyche are no longer capable of providing quality acute care. Their diagnostic and treatment options are extremely limited. It is no longer in the best interests of patients to receive acute care in these facilities. Our recommendations with respect to these facilities are as follows:

- Their acute care inpatient services should be terminated as soon as possible, and their acutely ill patients should be transferred to the rayon facilities at Zhovkva and Rava Ruska.
- These facilities should be converted to ambulatory care facilities, as has been done at Kulikiv. They should operate a limited number of day beds for the use of ambulatory patients. An important activity of these units should be to treat on an outpatient basis chronically ill patients and acutely ill patients after they have been diagnosed, treated, and discharged from rayon facilities.
- Eliminating inpatient services at these four facilities will produce annual savings in energy (heating), food, linens, medicines and supplies of approximately 4.2 billion kupons. These savings should be used to improve the quality of ambulatory diagnostic and treatment facilities and to strengthen the transportation services available to the health system. This improved transportation system might utilize a combination of ambulance, automobile, and minibus transportation. It would be used to transfer patients to and from rayon health facilities from outlying areas and medical staff from their homes to outlying places of work or to assist with outreach services.
- In addition to the direct monetary savings discussed above, the closing of inpatient services at these facilities will free staff totaling 82 doctors, nurses, medical aids, and other staff (37 percent of all staff currently working at these facilities). These freed staff should be used to provide additional ambulatory services at these facilities, to reinforce the staff of other ambulatories, to provide more outreach services at feldscher units, and to provide more home visits. In some cases, depending on their place of residence and overall rayon staffing requirements, they may be transferred to the polyclinic or inpatient departments of the rayon facilities; or they may work in districts such as Mageriv which are presently understaffed.

Staff may also need to be transferred temporarily to cover for other staff who are temporarily absent. A strengthened rayon health system transportation system will facilitate such a redeployment of staff.

- The expanded mission of all ambulatory health units in the rayon should be to strengthen preventive health services and primary medical care. They should treat as many patients as they can on an outpatient basis, consistent with accepted treatment protocols; and they should refer only seriously ill patients and difficult cases to the rayon polyclinics and hospitals. By doing so, they will make an important contribution to the more cost-effective use of the rayon facilities.
- Strengthened rayon transportation facilities should be used to provide patients with improved access to rayon facilities at Zhovkva and Rava Ruska. In most cases, public transportation systems or private transportation will be available. For some patients or in some locations, however, it may be necessary for the rayon health system to provide transportation services.

2. Primary Health and Medical Care

The present rayon health system is not pyramid-shaped. There is a strong feldscher system consisting of 58 units spread throughout the rayon which provides high-quality primary health care. In contrast, the primary medical care system, which would ideally provide family health services through a network of family medicine practitioners, is severely limited in size and scope. There are only five ambulatories currently in the rayon, each of which is staffed by an internist and a pediatrician. In addition, the town hospitals provide similar services to their districts. In contrast, the secondary health system, which consists of rayon and town facilities, is over-developed and, as already noted, provides care of uneven quality. We recommend that the following steps be taken to strengthen the health system pyramid:

- As noted above, we propose using the staff freed by closing the inpatient services of the town hospitals to strengthen the primary health and primary medical systems throughout the rayon. This single step will simultaneously eliminate the excessive number of secondary facilities and the understaffing of primary care.
- Also as noted, the rayon health system's transportation network should be strengthened, not only to transport patients to and from rayon facilities from outlying towns but also to provide greater mobility to medical staff in performing outreach activities.
- Doctors should increase their outreach services to feldscher units. In addition to treating patients in these units, they should accompany feldschers to the homes of patients to promote preventive health care. They should also use every opportunity to instruct groups of people about sound health practices. The primary threats to health in Zhovkva Rayon -- all of which can be lessened by effective health

education—are the resurgence of some infectious diseases (for example, diphtheria, TB, STDs), environmental health hazards (including automobile accidents), smoking, excessive drinking, and unhealthful diets. All employees of the health system need to instruct the population about these dangers and to serve as good examples for the population in their own behavior.

- The rayon should provide additional training to all ambulatory facility staff in preventive health care. In addition, ambulatory care physicians—particularly internists, pediatricians, and Ob/Gyns—should begin to receive appropriate training to enable them to ultimately become qualified "family health practitioners." Volunteer family medicine trainers may be obtained from British or American voluntary assistance organizations to provide short courses, and rayon health system administrators should work with their oblast counterparts to develop a more formal curriculum. Those completing such training should be rewarded through appropriate financial and moral incentives and should be placed in areas of highest need throughout the rayon.
- A work group of ambulatory physicians and nurses should be formed in the rayon to develop improved protocols for the treatment of patients on an outpatient basis. The purpose of this work group, which should be ongoing, would be to continually improve and monitor the quality of ambulatory care throughout the rayon while simultaneously attempting to reduce the number of unnecessary referrals to rayon hospitals and polyclinics by treating more patients at the primary level. The group should develop an effective means of monitoring quality of care (for example, by reviewing a random sample of medical records) and should identify suitable indicators of success in reducing unnecessary referrals. The working group should also develop ways to record referrals to rayon-level and oblast-level facilities, to track the cost of consumables at the facility level, and to reduce the frequency of redundant and/or unnecessary diagnostic procedures at different levels of the health system.

F. ORGANIZATIONAL CHART

Outlined below is an example of an effective organizational chart for the sample hospital in L'viv.

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